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**REMARKS****Introductory Comments:**

Claims 1-20 are pending in the application. The Applicants respectfully request reconsideration of claims 1-20.

**In Response To The Claim Objections:**

Claims 1-20 are objected to because of the following informalities. According to the Office Action appropriate correction is required. In claim 1, line 10, the word - said - should be inserted after the word "and". In line 15, the phrase "said first flexure plate" should be changed to - said first plate - to provide proper antecedent basis. In line 15, the phrase "said fixed plate" should be changed to - said flexure plate - to provide proper antecedent basis. In line 17, the phrase "said second fixed plate" should be changed to - said second plate - to provide proper antecedent basis. Also according to the Office Action, in claim 7, line 4, the phrase "said linearized acceleration signal" lacks antecedent basis. It appears that this claim should be depended on claim 5. In claim 9, line 3, the phrase "the flexure plate" should be changed to -a flexure plate --. in claim 16, lines 7-8, the phrase "said housing structure" should be changed to - a housing structure --. In line 11, the word - at - should be inserted after the word "structure". Although Applicants believe the claims to be allowable in their current form, Applicants nevertheless amend the claims in accordance with the Examiner's suggestions. These changes are merely intended to clarify the original intent of the Applicants and not to change any of the substance of the originally filed claims.

Further, according to the Office Action, in lines 28-29, the phrase "said first scaled voltage signal" should be changed to - a first scaled voltage signal --.

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Applicants respect the Examiner's suggestion, however, Applicants respond by amending the phrase "a first frequency signal" in line 23 to recite "a first scaled voltage signal," thereby providing antecedent basis for "said first scaled voltage signal." In lines 29-30, according to the Office Action, the phrase "said second scaled voltage signal" should be changed to -a second scaled voltage signal --. Again, Applicants respect the Examiner's suggestion, however, Applicants amend "a second frequency signal" in line 26 to recite "a second scaled voltage signal," thereby providing antecedent basis for "said second scaled voltage signal." As discussed earlier, Applicants believe the claims to be allowable in their current form but are nevertheless amending the claims. These changes are merely intended to clarify the original intent of the Applicants and not to change any of the substance of the originally filed claims.

**In Response To The Claim Rejections:**

Claims 1-7 and 9-16 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,454,266 (Chevroulet et al.). Claims 8 and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,454,266 (Chevroulet et al.).

Regarding the 102(b) rejection, according to the Office Action, Chevroulet et al. discloses a force measuring device comprising, as illustrated in Figures 1-6, a first fixed plate 3; a second fixed plate 4; a flexure plate 2 disposed between the first and second fixed plates; a first transimpedance amplifier 5 receives a first displacement capacitance signal to generate a first scaled voltage signal; a second transimpedance amplifier 6 receives a second capacitance signal to generate a second scaled voltage

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signal wherein an acceleration signal is generated from the first and second scaled voltage signals. (See column 3, line 35 to column 4, line 35).

The Applicants respectfully submit that claims 1-7 and 9-16 are novel and non-obvious because the claims and the prior art differ. The system in Chevroulet is conventional in that it includes an inflexible "conductive mass or mobile electrode 2" coupled to flexible hinges or an elastic suspension. (Column 3, lines 40-43.) Chevroulet does not disclose or suggest a conductive mass that is itself flexible, as is recited in claims 1-7 and 9-16. The flexure plate is defined such that "all the system flexure is generated within the flexure plate 30." (Paragraph [0029].) Chevroulet does not disclose or suggest an embodiment including a flexible conductive mass or mobile electrode. Conductive masses are substantially inflexible, and therefore, Chevroulet surrounds the conductive mass with flexible hinges to generate system flexure.

The structure of the flexible flexure plate described by the Applicants is advantageous in that the flexure plate is minimally susceptible to undesirable capacitance signals due to angular momentum changes in the system, such as those occurring when the system is turning. Whereas, a conductive mass, such as the one used in Chevroulet, is highly susceptible to such angular momentum changes.

Additionally, the claimed configuration has improved reliability over Chevroulet in that the Applicant's flexure plate is less subject to wear and tear than the flexible hinges of Chevroulet during normal system operation. In other words, the flexible hinges and conductive mass as disclosed in Chevroulet include limitations that are overcome by the Applicant.

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The Applicants therefore submit that claims 1-7 and 9-16 are novel and nonobvious because the claims and the prior art are substantially different. For at least the same reasons, dependent claims 8 and 17-20 are also novel and non-obvious.

Regarding the 103(a) rejections, the Office Action recognizes that, with regards to claims 8 and 17, although Chevroulet et al. does not explicitly suggest the system component as a thruster, an attitude control device, missile steering nozzle or vane actuator. Regardless, the Office Action alleges it would have been obvious to a person of ordinary skill in the art at the time of invention to have readily recognize the advantages and desirability of using other components without departing from the scope of the invention, namely to measure acceleration.

The Office Action further recognizes that, with regards to claim 18-20, Chevroulet et al. does not teach a second accelerometer and a third accelerometer. However, according to the Office Action, this is a mere design expedient to an artisan in the art to duplicate the accelerometer and to have each of the accelerometers in communication with one another.

Applicants submit that a *prima facie* case of obviousness has not been established. Applicants maintain that the obviousness rejection cannot be maintained in light of the complete lack of teaching of even two accelerometers in communication with one another, as well as a complete absence of any suggestion or motivation to modify the system for controlling acceleration as claimed in the present invention.

As an initial matter, no combination of references teach each of the elements of 18-20. Rather, the Office Action relies upon the knowledge generally available to one of skill in the art, and that the specific information necessary to support the rejection is

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a matter of design choice. That is, the combination of references lacks specific information – multiple multi-layered laminates – and relies upon general knowledge in the prior art that the Office Action assumes would teach the missing subject matter. However, no specific reasoning is provided to substantiate this assertion, as is required. *In re Chu*, 36 U.S.P.Q.2d 1089, 1094 (Fed. Cir. 1995) (reversing an obviousness rejection because the Patent Office provided no specific reasoning to support the assertion of design choice).

Accordingly, the knowledge generally available to one of skill in the art would not suggest additional accelerometers for the device of the Chevrolet reference because the Chevrolet reference advocates a single accelerometer rather than a yaw, pitch and roll cross axis thrust arrangement as claimed in the present invention. In a similar manner, if one of skill in the art were seeking to measure acceleration they would likely, as they have in the past, merely include a single accelerometer, or possibly a series of redundant accelerometers having a common axial orientation. The fact that one of skill in the art has the capabilities to arrive at the invention is not the test for whether one of skill in the art would have arrived at the invention based on the teachings of the prior art. *Ex parte Levingood*, 28 U.S.P.Q.2d 1300, 1301-02 (Bd. Pat. App. & Inter. 1993) (“That which is within the capabilities of one skilled in the art is not synonymous with obviousness”). The focus must remain on what the prior art suggested to one of skill in the art at the time the invention was made.

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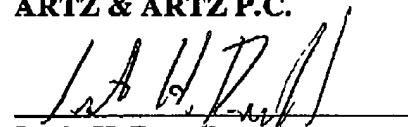
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In view of the aforementioned remarks, it is respectfully submitted that all pending claims are in a condition for allowance. A notice of allowability is therefore respectfully solicited. Please charge any fees required in the filing of this amendment to Deposit Account 50-0476.

The Examiner is invited to contact the undersigned at (248) 223-9500 if any unresolved matters remain.

Respectfully Submitted,

**ARTZ & ARTZ P.C.**

  
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